SOFE 4850U

User Experience Design

Lecture CRN: 43528
Final Project Group 10

Final Project Report

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Figma Link:

https://www.figma.com/design/dqLZ4k96lTiT5Ilhpd1pC3/UI-Final-Project?node-id=15-43&t=TQ9pUIJlfFjb56xf-1

Project Breakdown

When creating this UI project, a team member used the Ontario Design System that they used when they did a coop with the Ontario Government. Following the Ontario Design System, the layout of every page of the project was oriented based on the 12 column and 16px gutter layout. It should be noted that the Ontario Design System is meant for designing web pages and not mobile applications, therefore some principles of the Ontario Design System were applied differently. Most design considerations will be explained in the pages/components section of this report. The Figma plugin Stark was used to check for any design was used to check for any design violations.

The following will be pages passing the Stark auto scan and fix:
- Login Page (and all sub pages)
- Sign up Page (and all sub pages)
- Define/Modify a New Exercise
- Sidebar
- Add New Log Page
- Past Logs

Login Page

The first page that the user will encounter is this login page. To create a design with the most positive transfer effect, the title and subtitle are at the top, with username and password entry fields below respectively with a "Forgot Password" link. Finally, there are buttons for both login and sign up. To create a visually cohesive and harmonious appearance, all the entries are center-aligned. The elements with similar purposes (username/password, login/sign up) are colour-coded to make it easier for the user to differentiate between distinct purposes and create intuitive mapping. The orange 32 px bars are used to break the monotony of the page and it was found that people correlate orange with exercise which creates a sense of perceived affordance. The title has the biggest font and on the top of screen so it catches the attention of users and helps them realize the function of the UI.
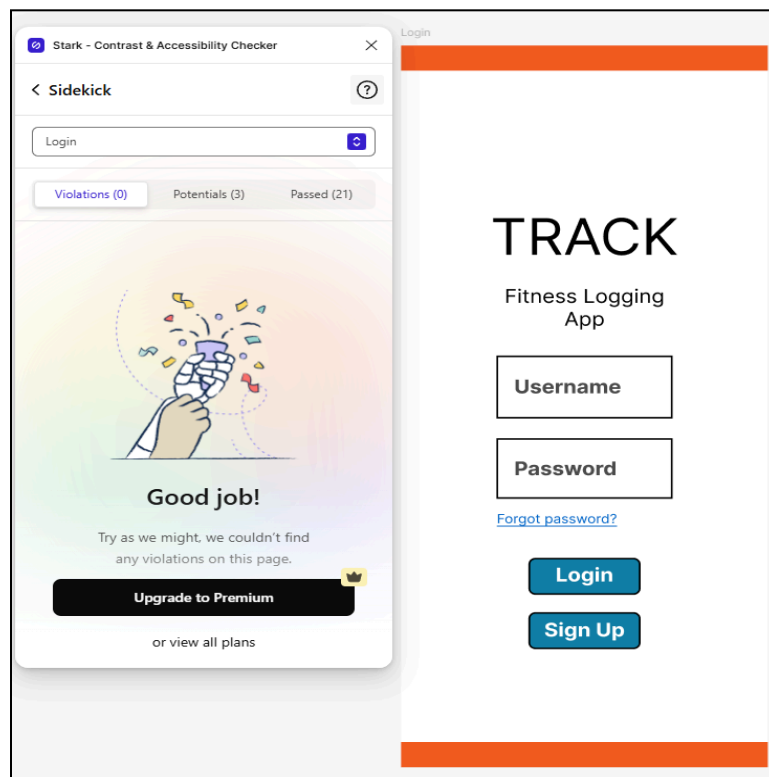
Login Page

# Invalid Username or Password Screen (part of login page)

When a user encounters the "Invalid Username or Password" screen, it's needed that the interface communicates the issue clearly. At the top of this screen, a red warning icon accompanied by the message "Invalid Username or Password" ensures visibility of the problem. Above this message, a "Back" button is placed prominently above the error message, giving users quick access to recovery options and the login page. To enhance usability, the page maintains the same color scheme and layout as the main login screen, ensuring consistency and reducing user confusion. Visual cues like the red warning icon and contrasting color for actionable links emphasize key elements, guiding the user's attention and providing a clear path forward.
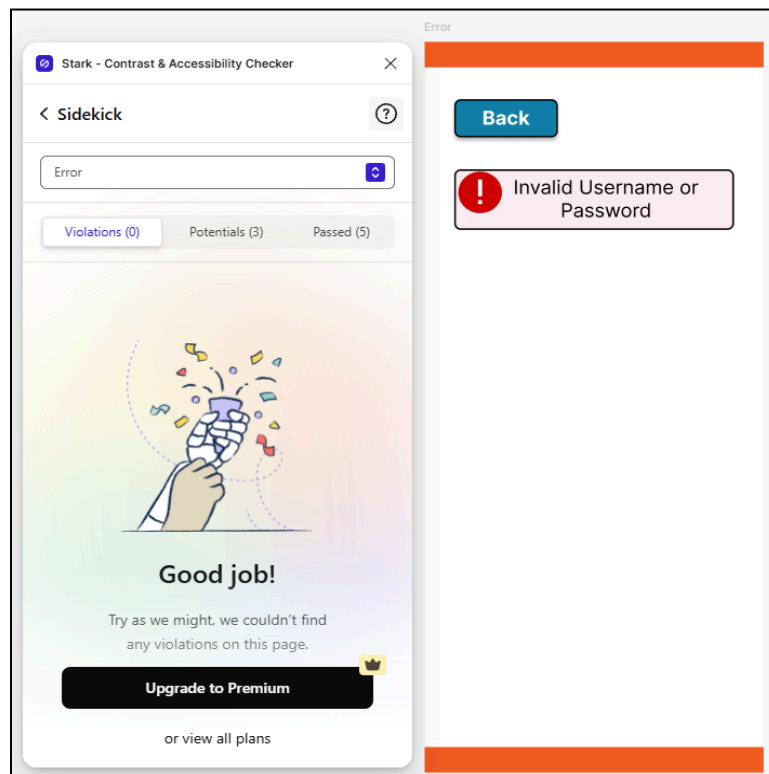
Invalid Username or Password Screen (part of login page)

Sign up Page

This is the sign up page that the user uses to make an account. They are prompted to put information into the text inputs with gray hints that disappear when the user selects one of the inputs. The back button lets the user go back to the Login page. The Sign up button helps tell the user this is the Sign Up page and creates an account when the user clicks it after filling out the inputs.
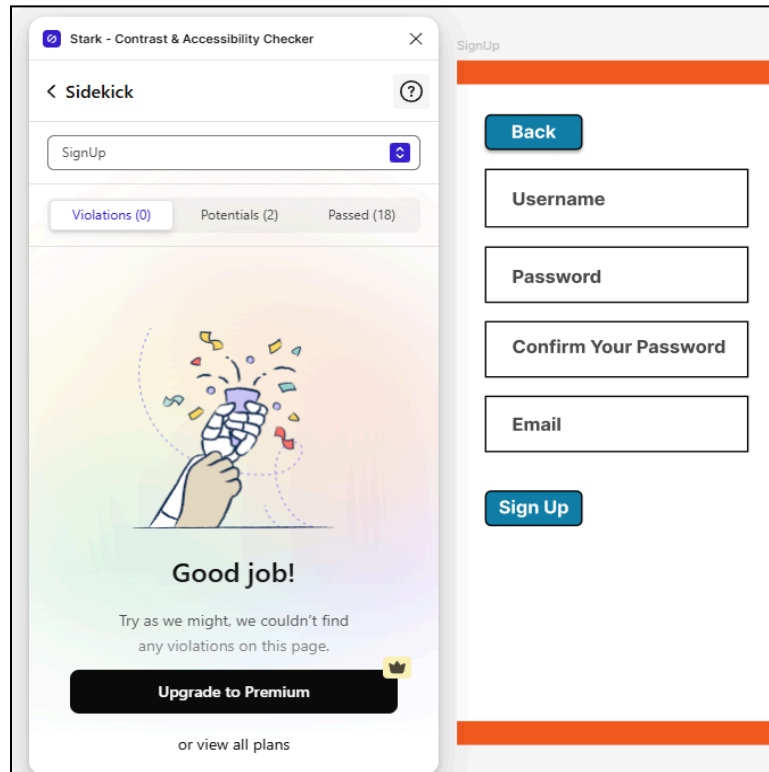
Signup Page

Recover password page

The "Recover Password" page features a clear heading, enter your email address to recover password" to indicate its purpose. Users are prompted with concise instructions to enter their registered email address into a single input field. Below the field, a prominent "Recover Password" button initiates the password recovery process. Upon submission, a confirmation message reassures users that a recovery email has been sent. Consistent design elements, such as colors and layout, ensure ease of use and familiarity. A "Back" button is also included for easy navigation, enhancing overall user experience and interaction.
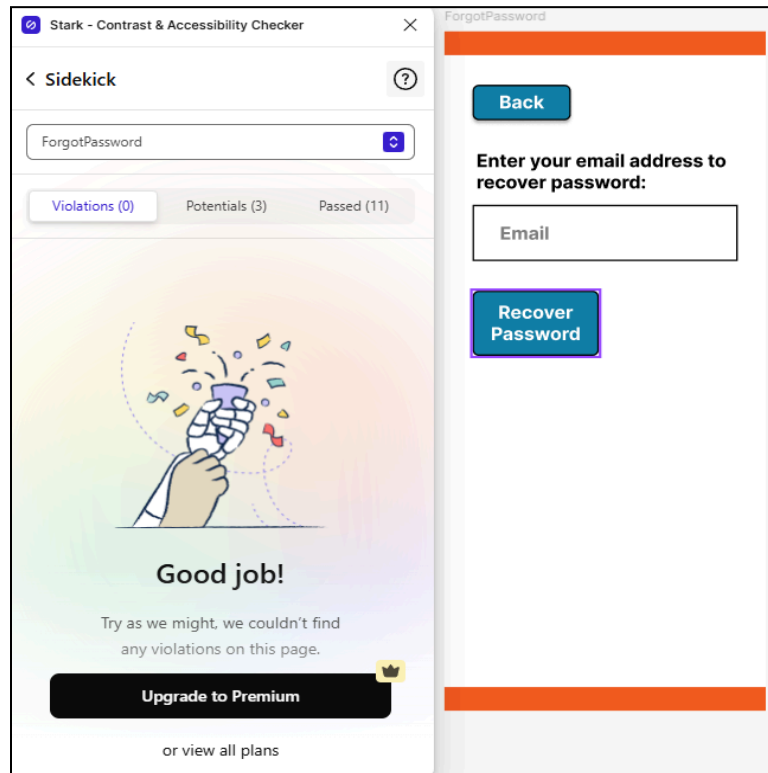
Recover password page

Define/Modify a New Exercise Page

Following a user's log in or sign up, they are able to define or modify a new exercise. This page is divided into three sections. The page name appears in the topmost section alongside a sidebar button used for page navigation. The second section allows the user to specify the identifying information for this workout. This allows them to view the name of the workout and the specific muscle they worked on, with an Add button below. The third section of the page shows lists of defined exercises. The scroll bar on the top shows that there is a longer extensive list of exercises that the user can scroll through.

Define/Modify a New Exercise

After adding a new exercise page

On the "After Adding a New Exercise" page, a confirmation message is displayed at the top, stating "Exercise has been added" with a green checkmark for positive reinforcement. Above this a "Back" button to navigate back into the previous menu is present. Consistent design elements and clear visual cues guide users seamlessly to their next step, ensuring a smooth and intuitive experience.
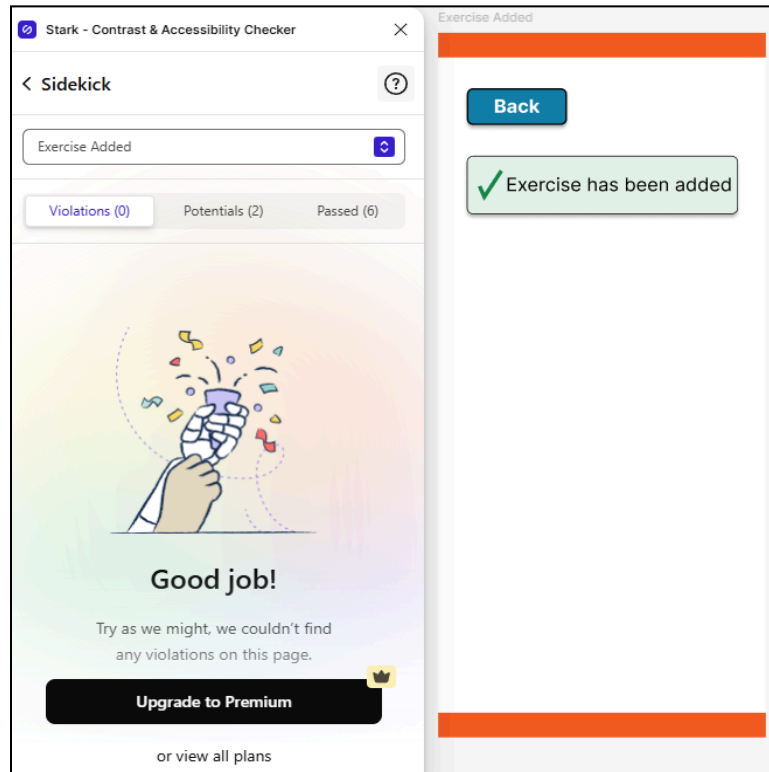
After adding a new exercise

Sidebar

The sidebar appears when the hamburger icon is pressed, it will overlay the current page and blur it out. This is to constrain the user from interacting with the old page and make the user know they should use the buttons on the right. Users should be able to click on the blurred parts of the page to return to get rid of the sidebar. The new sidebar buttons are used to navigate to other pages or to sign out of the app. They are placed on the right side of the screen to make use of Fitt's since the user's hand will be close to the right side after using the sidebar button.
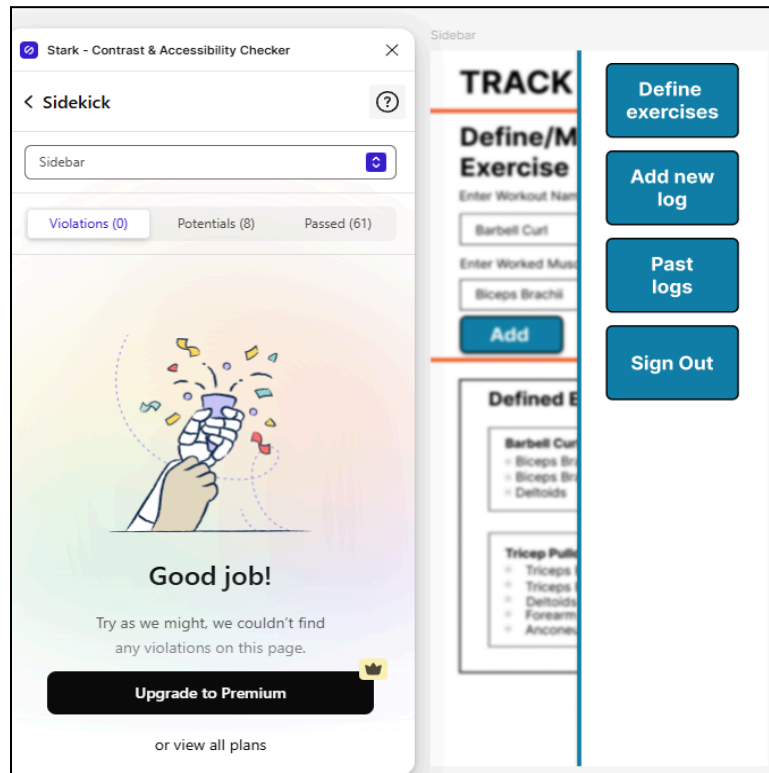
Sidebar

Add New Log Page

Another page function that a user can access once being logged in is adding a new log. This page is formatted with the "Add New Log" title heading consistent with the other pages. The subheading of size immediately following the title is the "Workout Name:" heading, guiding the user to select a workout. There are two user entry fields below; a text entry field for the user to type a workout name, and a drop down menu for the user to select a workout category. Separated with an orange delineation is created workout. These previous exercises are formatted with the date on the top to keep track of the workout date. Then, each workout is separated with a box for clarity. The current workout appears in the uppermost box. At the top of the box is the name of the exercise, which can be changed with a dropdown menu. Three columns below show various factors of the workout that a user can continuously modify. For instance, under the barbell curl are three options: reps, weight, and timestamp. A user can add a rep which will extend the data under the existing workout. Below, there is also the option to add a new workout. The format of each workout box is the same to achieve consistency.
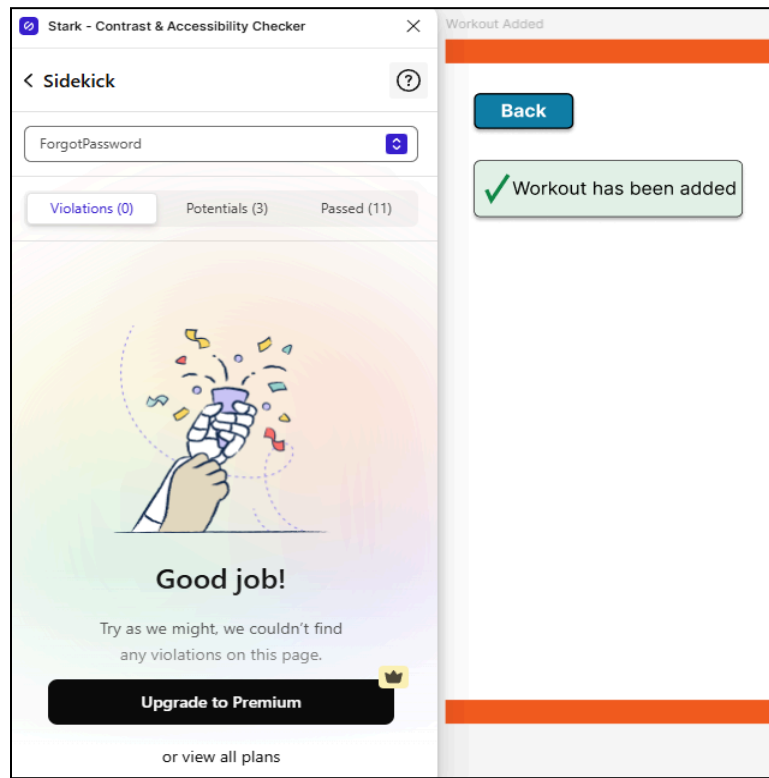

Add New Log Page

After adding a new workout page

Once a user has successfully entered all fields of a new workout, a confirmation message appears with a green box and check mark to show that the workout has been added. The color green and the check mark symbol were selected to match user expectations and have positive reinforcement.

After adding a new workout

Past Logs

Past logs can be viewed on this page. All logs are separated into a box to increase clarity. The top bar with labels scrollable. The labels can be clicked on to filter what category of logs are shown. The scrollbars use a common design which causes positive reinforcement and indicates that the content beside them is scrollable. The show more/show less buttons indicate to the user that it is a button that can be used to show more or show less of an individual log. The log should show more or show less when its respective button is pressed to create a sense of causality.
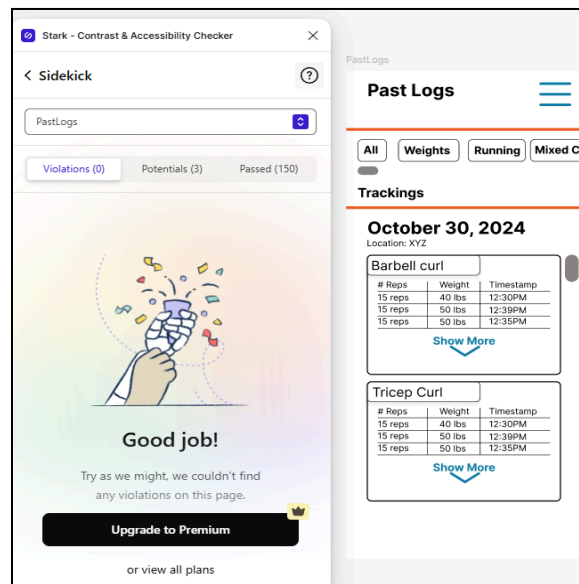
Past Logs Page
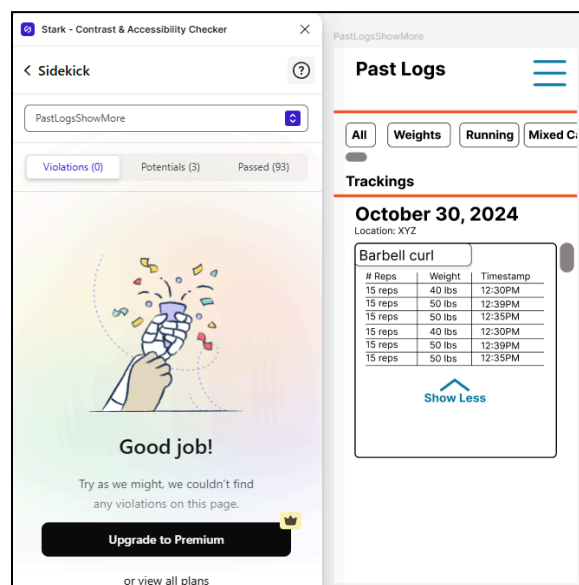
After pressing "Show more"

Design Considerations

Spacing

All elements were horizontally spaced based on the 12 column layout. For vertical spacing, all vertical spaces were divisible by 8. Using the layout spacing methods above, the layout is more consistent which increases the learnability of the UI design. Most elements are separated by 16px to prevent people from accidently clicking different buttons(error prevention). All content is oriented towards the middle of the page and horizontally spaced one column and one gutter away from the borders to increase readability of content.

Picture of the 12 column and 16px gutter layout. (Red are the columns and white are the 16px gutters)
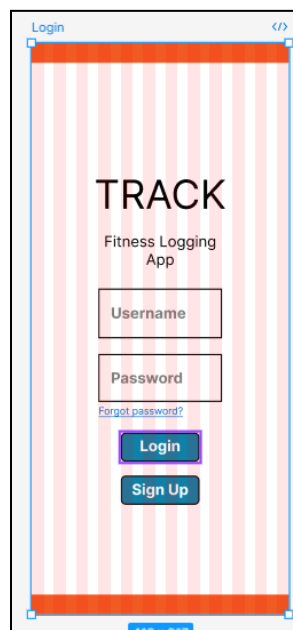
12 columns and 16px gutter layout

Colour

In our mobile app UI, we decided to use the colours: black, white, gray (HEX:8A8585 and HEX:4D4D4D), red(HEX:CD0000), orange(HEX:F15A22), blue(HEX:1080A6), and green(HEX:118847 and HEX:E5F0E9). All colours are from the Ontario Design System because colours from the Ontario Design System are meant to be accessible by everyone.

Green and Red were used for causality aspects of the UI such as confirmation and errors for positive reinforcement. Because page navigation is important, blue was used for those components as

color blindness usually is red/green. An overall low saturation was used for the colours for pages in order to be less hard on users' eyes. High saturation colours are only used briefly to highlight the important parts or to catch the attention of the user. For example, using blue to let the user know they are using a button. Colours were tied to the same type of components to increase the learnability and consistency of the UI. For example, blue was used for any buttons, and orange lines were used to indicate a new section of the page.

To increase the accessibility of our UI, there had to be a colour contrast between the text and the background of at least 4.5 to 1 according to WCAG standards. For the colour contrast of other elements, it was decided that any element area bigger than 18x18px was to have a 3:1 colour contrast, the same colour contrasts that large text (which is 18px or above) should have according to WCAG. The Figma plugin, Stark, was used to check the colour contrast.

Here are the screenshots of all the colours meeting the 4.5:1 colour contrast:
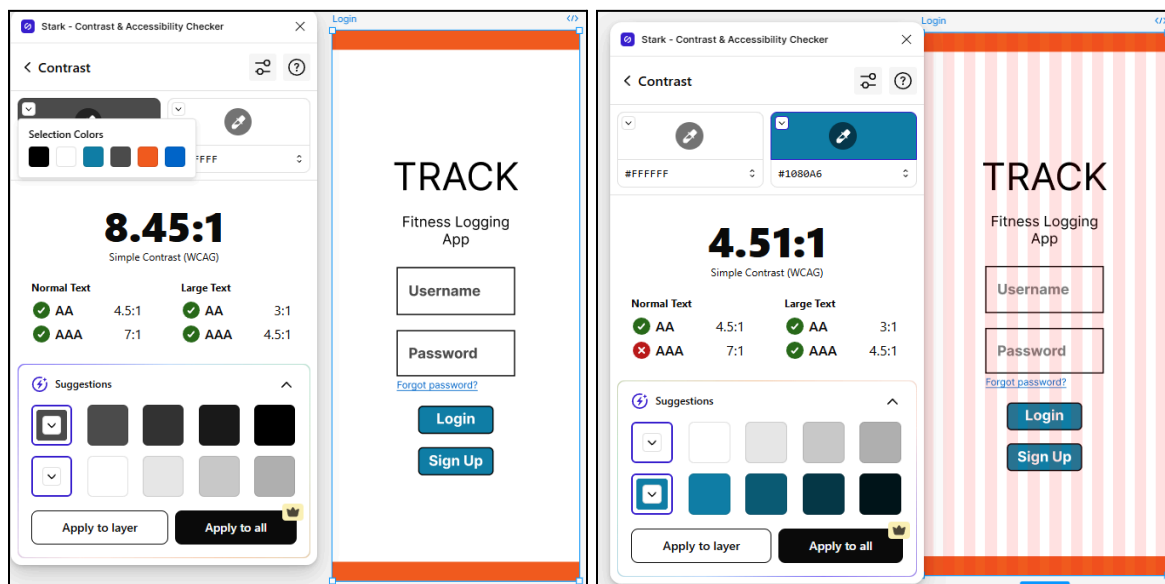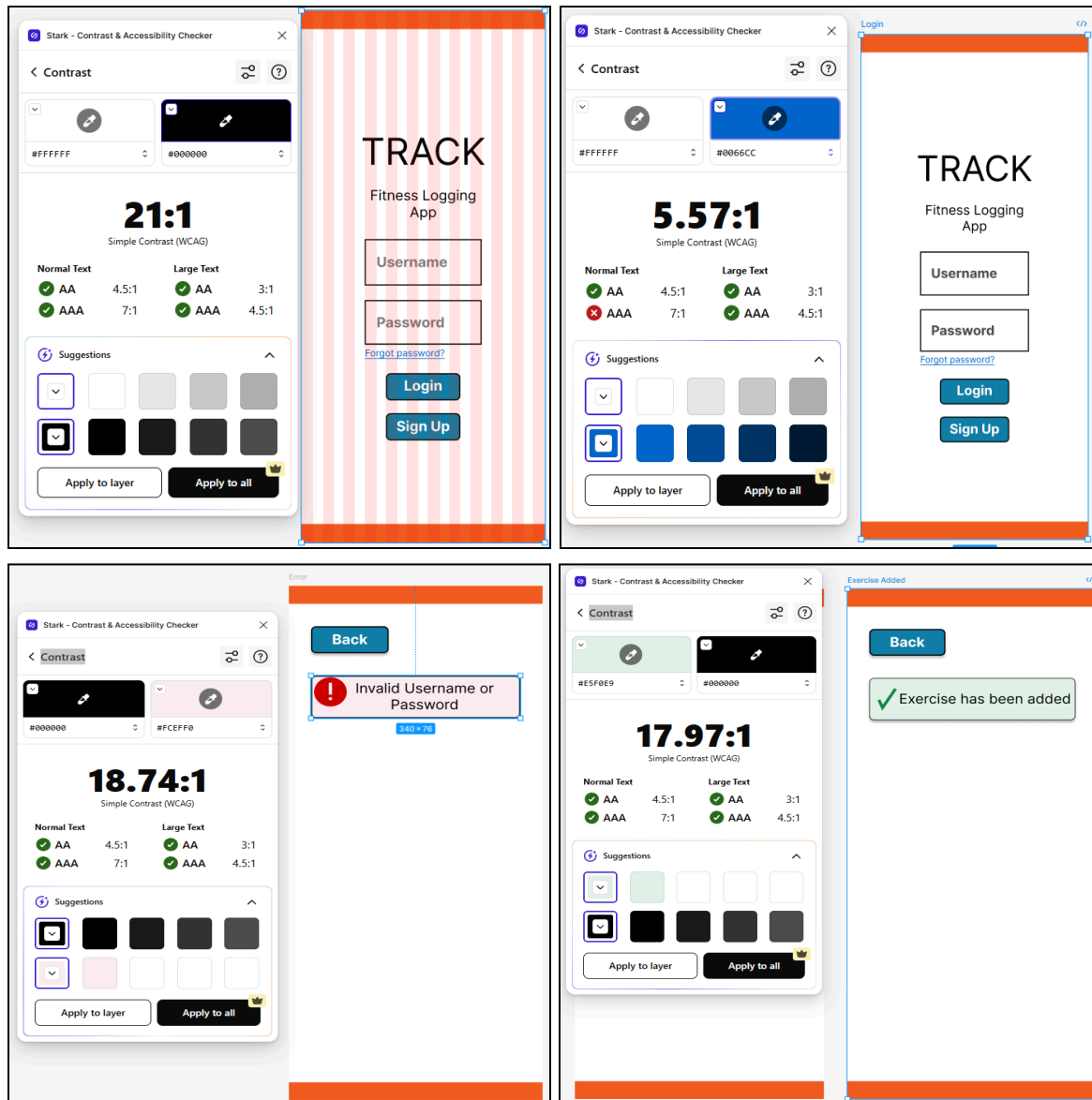
Sizing

All components and fonts are at least 16px, this is because 16px is the standard size used for all UI elements. Components were sized with the 12 column system in mind. Some important component sizing was that: blue buttons with white text should be 4 columns long, inputs should be at least 6 columns, and page content should take up 10 columns. Bold Fonts are used to help differentiate important elements of the page to help navigation/sense of learnability.

Causality

To increase the causality of the UI, multiple feedback screens were created for visibility of system status. The feedback screens use green and red to positively reinforce success and failure like other apps.

All interactable components should cause a change in the UI to create a sense of causality feedback and have readable text about their purpose in them for a sense of direct correlation. For a sense of reversibility, "Back" buttons were added to some pages so users could go back to the last page as there was no other way for them to navigate some pages.

Component Design Considerations

Common Buttons

Login Button

- Most use blue and white to signal to users that it is a button. Used on all buttons to increase learnability. Blue was used since it is least likely to be affected by red/green colorblindness. White was used for the text for the button to match the WCAG text to background colour contrast.
- Text inside button to explain the button functionality, helping users to know the direct correlation and mapping of the button. Font is 20px to make it stand out more and make the button easier to find to increase ease of use.
- All buttons cause a change on the UI for a sense of feedback.
- All buttons are 4 columns long to create a sense of consistency and are big enough to easily use.

Show Less and Show More Buttons
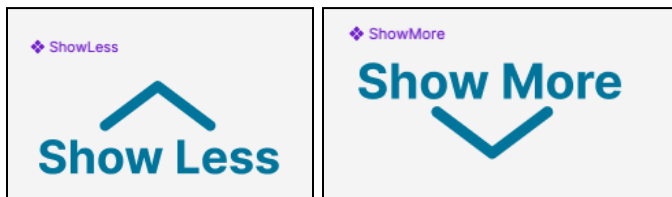
- Same concept is used, where blue and white signal to users that this is a button.
- It contrasts well from text and the background to indicate that there is a clickable entity.
- Font is 20px.
- Arrow points in the direction of where something is most likely to happen
- A modal will open upon pressing the button.
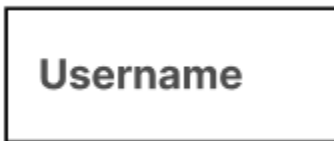
Add Reps Button
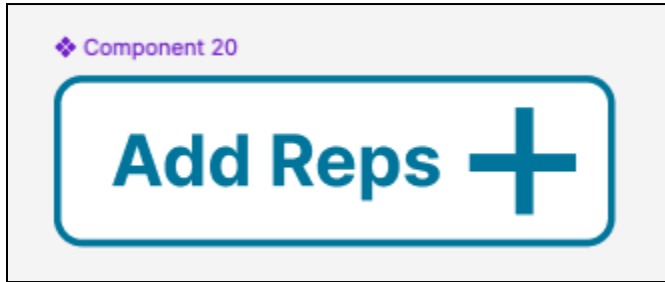
- Same concept is used, where blue and white signal to users that this is a button.
- It contrasts well from text and the background to indicate that there is a clickable entity.
- A plus icon is used to indicate that something is being added.

Text Inputs

- Has square edge border to help differentiate between it and every other elements' borders which have rounded corners
- Similar design to other text inputs for positive reinforcement
- Gray Text Hint describing the input the user should enter, the hint should disappear when the user taps the input so that they understand something can be entered in the input. These help create a sense of causality.
- Passes the WCAG colour contrast

Scroll Bar
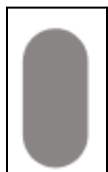
- Shares design with other scroll bars for positive reinforcement
- Hints to user that element is scrollable, creating a sense of affordance

Implementation Challenges

Challenges that we faced when creating the UI was figuring out how to fit all the content we wanted onto the pages while following the 12 grid layout system. Originally we wanted to exactly follow the Ontario Design System Grid which but given the limited space on a Figma page, it would not be possible without making the prototype confusing. This led to using our own grid rules using the 12 column system so instead of making all elements take 3/12, 4/12, 6/12, 8/12, or 12/12 columns, some elements would consistently use a gutter instead of a column. There are also some functionalities we can't add to a figma prototype like a flickering line used to indicate where you are currently inputting text. We also can't really convey a pop up notification box in figma without creating a new page.

Lesson Learned

We learnt that creating feedback pages is a long and tedious effort. We think it was probably better to separate the content into more pages to leave more room for elements to make the pages more aesthetically pleasing.